

**ABSTRACT**

5 A method for low-density parity-check (LDPC) encoding of data comprises defining a first  $M \times N$  parity check matrix; generating, based on the first parity check matrix, a second parity check matrix having an  $M \times M$  triangular sub-matrix; and, mapping the data into an LDPC code word based on the second parity check matrix. The method is particularly useful for data communications applications, but may also be employed in other applications such as, for example, data storage.